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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/261,209	03/03/1999	PETER D. KARABINIS	027575-212	7458

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EXAMINER

HOM, SHICK C

ART UNIT	PAPER NUMBER
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2661

DATE MAILED: 06/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/261,209

Applicant(s)

KARABINIS ET AL.

Examiner

Shick C Horn

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-58 is/are pending in the application.
- 4a) Of the above claim(s) 1-46 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 47-58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: in page 1 of the preliminary amendment update status of U.S. Applications 08/996,153, 08/899,389, and 08/501,575 as now U.S. Patents nos. 5,959,984, 6,084,865, and 5,663,957, respectively.

Appropriate correction is required.

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

3. Claims 48, 49, 52-54, 56, and 57 are objected to because of the following informalities: in claims 52-54 line 1 delete typo "claim 50" and insert ---claim 51---. In claims 48, 52, and 56 lines 7 and 8 delete "a GMSK" and insert ---a Gaussian Minimum Shift Keyed GMSK---, for clarity. In claims 49, 53, 57 lines 7

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and 8 delete "a OQPSK" and insert ---an offset Quadrature Phase Shift Keying OQPSK---, for clarity.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. Claims 48-50 and 52-58 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 48-50 line 2 which recite "a satellite relay station" is not clear as to whether it is reciting ---said satellite relay station--- of claim 47 line 2. In claims 48-50 line 3 which recite "a transmitter" is not clear as to whether it is reciting ---said transmitter--- of claim 47 line 3. In claims 48-50 line 4 which recite "an uplink RF channel" is not clear as to whether it is reciting ---said uplink RF channel--- of claim 47 line 4. In claims 48-50 line 5 which recite "a receiver" is not clear as to whether it is reciting ---said receiver--- of claim 47 line 5. In claims 48-50 line 6 which recite "a downlink RF channel" is not clear as to whether it is reciting ---said downlink RF channel--- of claim 47 line 6. In

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claims 52-54 line 2 which recite "a satellite relay station" is not clear as to whether it is reciting ---said satellite relay station--- of claim 51 line 2. In claims 52-54 line 4 which recite "an uplink RF channel" is not clear as to whether it is reciting ---said uplink RF channel--- of claim 51 line 4. In claims 52-54 line 6 which recite "a downlink RF channel" is not clear as to whether it is reciting ---said downlink RF channel--- of claim 51 line 6. In claim 55 line 3 which recite "a mobile telephone" is not clear as to how and whether it is related to said mobile telephones of claim 55 line 2 and is not clear as to whether it is reciting ---each of said mobile telephones--- of claim 55 line 2. In claims 56-58 line 2 which recite "a satellite relay station" is not clear as to whether it is reciting ---said satellite relay station--- of claim 55 line 2. In claims 56-58 line 3 which recite "a mobile telephone" is not clear as to whether it is reciting ---said mobile telephone--- of claim 55 line 3. In claims 56-58 line 4 which recite "a transmitter" and "a constant envelop modulated signal" are not clear as to whether they're reciting ---said transmitter--- and ---said constant envelop modulated signal--- of claim 55 line 4. In claims 56-58 line 5 which recite "an uplink RF channel" is not clear as to whether it is reciting ---said uplink RF channel--- of claim 55 line 5. In claims 56-58 line 6 which recite "a

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receiver" and "a linearly modulated signal" are not clear as to whether they're reciting ---said receiver--- and ---said linearly modulated signal--- of claim 45 line 6. In claims 56-58 line 7 which recite "a downlink RF channel" is not clear as to whether it is reciting ---said downlink RF channel--- of claim 55 line 7. In claims 50 and 54 line 7 which recite "the signal bursts" is not clear as to whether it is reciting ---said constant envelop modulated signal bursts--- or ---said linearly modulated signal bursts--- or ---said communicated signal bursts---.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made. This application currently names joint inventors. In

considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the

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inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 47-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ziv et al. in view of Hannah et al.

Ziv et al. disclose nearly all the subject matter now claimed. Note col. 1 lines 35-42 which recite a multiple access technique whereby mobile telephone system users, each having a transceiver, communicate through satellite repeaters using CDMA spread spectrum communication signals and col. 5 lines 26-42 which recite modulating the Walsh chips with user-specific PN sequence generator which are split into two signals, one of which is modulated with an in-phase I channel PN sequence and one of which is modulated with a quadrature-phase Q channel PN sequence wherein both the I channel modulation and the Q channel modulation provide four PN chips per Walsh chip wherein the I and the Q modulated data are Offset Quadrature Phase Shift Keying OQPSK combined for transmission clearly anticipate the communication system between mobile telephone and satellite relay station comprising a transmitter and receiver over RF channel

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using linearly modulated signal bursts as in claims 47, 51, 55, and said linearly modulated signal being OQPSK signal as in claims 49, 53, 57. Further, col. 1 lines 17-34 which recite that these multiple access techniques include time division multiple access (TDMA), frequency division multiple access (FDMA), and code division multiple access (CDMA) are well known clearly anticipate the signal bursts being TDMA signal bursts as in claims 50, 54, and 58.

Ziv et al. did not teach the step of transmitting constant envelop modulated signal bursts from the mobile to the satellite relay station over an uplink RF channel as in claims 47, 51, and 55, and said constant envelop modulated signal bursts being GMSK modulated signal as in claims 48, 52, and 56.

Hannah et al. teach that it is known to provide a method for generating and transmitting a modulated carrier signal to a satellite including the step of generating a modulated data signal having an envelope of constant amplitude as set forth at col. 2 lines 43-58 in the field of telecommunications for the purpose of an increase in operational efficiency, a reduction in overall size and a reduction in DC power consumption by the unit, which substantially lowers the cost of the unit which clearly anticipate the step of transmitting constant envelop modulated signal bursts from the mobile to the satellite relay station over

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an uplink RF channel as in claims 47, 51, and 55. Further, col. 6 lines 23-34 which recite the modulation scheme utilized to generate the modulated data signal creating a signal having a constant envelope amplitude so as to allow for the use of a saturated amplifier whereby a minimum shift keying MSK technique is utilized to modulate the data signals clearly anticipate said constant envelop modulated signal bursts being GMSK modulated signal as in claims 48, 52, and 56.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the step of transmitting constant envelop modulated signal bursts from the mobile to the satellite relay station over an uplink RF channel and said constant envelop modulated signal bursts being GMSK modulated signal as taught by Hannah et al. to the system of Ziv et al. because Hannah et al. teach the desirable advantage of providing an increase in operational efficiency, a reduction in overall size and a reduction in DC power consumption by the unit, which substantially lowers the cost of the unit and said lower cost of the unit being desirable to achieve more cost efficient system operation in Ziv et al.

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Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Dent in U.S. Patent nos. 6,084,865, 5,959,984, 5,663,957, and 5,535,432 disclose a dual mode satellite/cellular terminal. Meidan et al. disclose a method and apparatus for operating with a hopping control channel in a communication system. Durrant discloses a spectrally efficient quadrature amplitude modulator.

8. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314, (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington. VA., Sixth Floor (2600 Receptionist at (703) 305-4750).

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shick Hom whose telephone number is (703) 305-4742. The examiner's regular work schedule is Monday to Friday from 8:00 am to 5:30 pm EST and out of office on alternate Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas Olms, can be reached at (703) 305-4703.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.


DANG TON
PRIMARY EXAMINER

SH

May 31, 2002